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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,691	03/04/2002	Kiyoshi Tsuchida	H-1035	2815

7590

05/24/2004

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EXAMINER

ROMAN, ANGEL

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,691

Applicant(s)

TSUCHIDA, KIYOSHI

Examiner

Angel Roman

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/04/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Specie I in Paper No. 01262004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 6 is objected to because of the following informalities: In line 15 "the openings" should be replaced with --openings--. Appropriate correction is required.
4. Claim 9 is objected to because of the following informalities: In line 2 "the second die" should be replaced with --the second mold--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made:

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Towa KK Japanese Patent Publication JP 03202327 A in view of Nakamura Japanese Patent Publication JP359126440A.

Towa KK discloses a method of manufacturing a semiconductor device comprising the steps of; providing a first mold 1 having a main surface, and a second mold 2 having a main surface and provided with first and second concaved portions 2₁ on the main surface; providing a resin (see Abstract); providing a paper sheet 20 having plural openings 20₁ each having a diameter and through holes 20₁ having a diameter larger than that of the plural openings (see figure 1); opposing and contacting the main surface of the first mold and the main surface of the second mold and disposing the sheet 20 between the main surface of the first mold 1 and the main surface of the

second mold 2 to situate the first and the second concaved portions in the region where the through holes are disposed (see figure 2); injecting a resin to the inside of the openings surrounded with the main surface the first mold and the first and second concaved portions; removing the sheet and the resin on the main surfaces of the first mold and the second mold (see Abstract). Towa KK also discloses encapsulating plural semiconductor chips 3 after the cleaning process (see figures 9 and 10).

Towa kk is applied as above but lacks anticipation on disclosing a melamine resin containing silica particles as the cleaning resin. Nakamura discloses a melamine mold cleaning resin comprising silica particles (see Abstract). In view of this disclosure, it would have been obvious to a person having ordinary skills in the art at the time the invention was made to use the mold cleaning resin disclose in Nakamura in the primary reference of Towa kk since it would ease the process of removing the mold cleaning resin and prevent damage to the mold (see Abstract).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Huang et al., Takashima, Pas, Horiuchi, Mitsubishi, Toshiba and Hitachi disclose mold-cleaning processes using mold-cleaning sheets.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel Roman whose telephone number is (571) 272-1681. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR
May 16, 2004



HA NGUYEN
PRIMARY EXAMINER